

5/8

WAVELENGTH VARIABLE MICRO CHIP LASER WITH ELECTRIC FIELD CONTROL

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Abstract

PROBLEM TO BE SOLVED: To provide a wavelength variable micro chip laser wherein wavelength is changed in high-responsibility by electric field control.

SOLUTION: A non-linear crystal 12 so configured that the index of refraction in each active direction is changed when electric field is applied, and a laser crystal 14, are provided. The non-linear crystal and the laser crystal comprise, respectively, plane interfaces 12a and 14a common to each other, and an outside end surface almost orthogonal to the interface. The outside end surface of the laser crystal is a total reflection surface 14b while that of the non-linear crystal is a partial reflection surface 12b, and the total reflection surface and the partial reflection surface constitute a Fabry-Perot type resonator. Further, by using polarizing crystal for the laser crystal, it can function as a double refraction filter on electric field control without incorporating in polarizing plate, the loss is reduced and wavelength is changed in high responsibility.

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